*Curriculum Vitae*

**Samantha R. Weintraub**

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Education

**Ph.D.,** Ecology and Evolutionary Biology, University of Colorado Boulder (August 2009 - May 2014)

Dissertation: Effects of topography and forest change on soil nutrient dynamics in wet tropical forests.

**B.S.,** Conservation and Natural Resources, University of California Berkeley (August 2003 – 2007)

Thesis: Nitrification in model grassland ecosystems: edaphic and environmental controls

Awards and Grants

* Research Grant, Jordan Valley Farmington Bay Water Quality Council (2016), $69,000
* Workforce Development Grant, iUtah EPSCOR, NSF (2015), $10,000
* Best Scientific Presentation, Salt Lake County Watershed Symposium (2015)
* Research Grant, Friends of Red Butte Creek (2015), $3,000
* Outstanding Student Paper Award, Organization for Tropical Studies (2014)
* Doctoral Dissertation Improvement Grant, NSF (2013), $16,500
* Greg Gund Research Fellow, Osa Conservation (2012), $3,500
* Campus Sustainability Student Leadership Award, University of Colorado (2012)
* Pre-doctoral Fellowship Honorable Mention, NSF (2010)
* Graduate Research Grant, Organization for Tropical Studies (2010), $1,500
* Undergraduate Excellence in Honors Research Award, University of California (2006)

Professional Experience

**Terrestrial Biogeochemist**, National Ecological Observatory Network (NEON), 2016-present

* Develop and refine standardized protocols used by hundreds of technicians to measure plant and soil biogeochemical dynamics across a national network of 47 ecological monitoring sites
* Construct algorithms to transform raw biogeochemical data into publicly available data products
* Provide scientific expertise to guide procurement and quality assurance measures for multi-million dollar laboratory analysis contracts
* Seek community input by steering a technical working group composed of leaders in the field
* Promote awareness and use of NEON data through regional to national conference presentations, data analysis and synthesis workshops, and discussions with researchers about grant proposals

**Participating Scientist**, American Climber Science Program, 2014-present

* Design experiments to investigate the effects of climate variation and land-use/land-cover change on soil biogeochemical pools and fluxes in mountain environments
* Collaborate with an international team to execute logistically complex research in remote regions
* Disseminate findings to diverse audiences by contributing to technical reports, peer-reviewed journal articles, and blog posts

**Postdoctoral Research Fellow**, University of Utah, 2014-2016

* Utilized field and laboratory experiments to reveal new insights into the controls on soil and stream nitrogen cycling in mountain-to-urban watersheds
* Baselined a nitrate isotopes protocol for the University of Utah Stable Isotope Ratio Facility for Environmental Research
* Collaborated on cross-campus interdisciplinary research and mentoring programs with the University of Utah Global Change and Sustainability Center
* Communicated research findings to local natural resource managers, politicians, and the press
* Published four peer-reviewed scholarly papers; awarded over $80,000 in grants

**Graduate Research Assistant**, University of Colorado Boulder, 2009-2014

* Executed innovative research on environmental change in tropical forest soils and watersheds
* Published seven peer-reviewed scholarly papers; one awarded “Best Student Paper”
* Presented research findings at several national meetings, each with thousands of attendees
* Awarded over $25,000 in own grants/fellowships; Helped P.I. win an $800,000 NSF grant
* Pioneered conservation and outreach activities with a Costa Rican non-profit organization

**Research Technician**, University of California Berkeley, 2007-2008

* Conducted research on impacts of nitrogen pollution for tropical rainforest carbon cycling

**Undergraduate Research Assistant**, University of California Berkeley, 2006–2007

* Investigated controls on nitrification rates in California grasslands using mesocosm experiments

**Fellow**, U.S.-Brazil Agroecology Exchange, 2005

* Participated in a research and teaching immersion program focused on organic agriculture and barriers to success for small-scale farming in southern Brazil

Peer-Reviewed Publications

**Weintraub, S. R.,** P. D. Brooks and G. J. Bowen. 2016 (*in press*). Interactive effects of vegetation and topographic position and nitrogen availability and loss in a temperate montane ecosystem. *Ecosystems*.

**Weintraub, S. R.**, R. J. Cole, C. G. Schmitt, and J. All*.* 2016.Climatic controls on the isotopic composition and availability of soil nitrogen in mountainous tropical forests. *Ecosphere* 7(8): e01412. 10.1002/ecs2.1412.

Hall, S.J., **S. R. Weintraub**, and D.R. Bowling. 2016. Scale-dependent linkages between nitrate isotopes and denitrification in surface soils: Implications for nitrogen isotope models. *Oecologia* 181: 1221, doi:10.1007/s00442-016-3626-1.

Hall, S. J., E. Ogata; **S. R. Weintraub**, M. A. Baker, J. R. Ehleringer, C. I. Czimczik, D. R. Bowling*.* 2016. Convergence in nitrogen deposition and cryptic isotopic variation across urban and agricultural valleys in northern Utah, *JGR Biogeoscience* 121, doi:10.1002/2016JG003354.

Hall, S.J., **S. R. Weintraub**, D. Erikkson, P. D. Brooks, M. A. Baker, G. J. Bowen, D. Bowling (2016). Stream nitrogen inputs reflect groundwater across a snowmelt-dominated montane to urban watershed. *Environmental Science and Technology* 50: 1137–1146.

**Weintraub, S. R.**, P. G. Taylor, S. Porder, C. C. Cleveland, G. P. Asner, and A. R. Townsend (2015). Topographic controls on soil nitrogen availability in a lowland tropical forest. *Ecology* 96: 1561-1574.

Taylor, P. G., W. R. Wieder, **S. R. Weintraub,** S. Cohen. C. C. Cleveland, and A. R. Townsend (2105). Organic forms dominate hydrologic nitrogen loss from a lowland tropical watershed. *Ecology* 96: 1229-1241

Taylor,P. G., T. M. Legg, C. C. Cleveland, H. R. F. Fancher, D. R. Nemergut, **S. R. Weintraub,** W. R. Wieder, and A. R. Townsend (2014). Palm Oil Wastewater: Converting a Climate Problem into Power. *Nature Climate Change* 4: 151-152.

**Weintraub, S. R.,** A.R. Townsend, and A. E. Russell (2013). Native tree species regulate nitrous oxide fluxes from secondary tropical forests. *Ecological Applications* 24: 750–758.

Graham, E. B., W. R. Wieder, J. W. Leff, **S. R. Weintraub,** A. R. Townsend, C. C. Cleveland, L. Philippot, and D. R. Nemergut (2013). Do we need to understand microbial communities to predict ecosystem function? A comparison of statistical models of nitrogen cycling processes. *Soil Biology and Biochemistry* 68: 279-282.

Warring, B. G., **S. R. Weintraub** and R. L. Sinsabaugh (2013). Ecoenzymatic stoichiometry of microbial nutrient acquisition in tropical soils. *Biogeochemistry* doi 10.1007/s10533-013-9849-x

**Weintraub, S. R.,** W. R. Wieder, C. C. Cleveland & A. R. Townsend. 2012. Organic matter inputs shift soil enzyme activity and allocation patterns in a wet tropical forest. *Biogeochemistry* doi: 10.1007/s10533-012-9812-2.

Wieder, W. R., C. C. Cleveland, P. G. Taylor, D. R. Nemergut, E. L. Hinckley, L. Philippot, D. Bru, **S. R. Weintraub**, M. Martin, and A. R. Townsend (2012). Experimental removal and addition of leaf litter inputs reduces nitrate production and loss in a lowland tropical forest. *Biogeochemistry* doi: 10.1007/s10533-012-9793-1.

Conference Presentations

Ecological Society of America 101st Annual Meeting. *Effects of vegetation and terrain on nitrogen availability and loss in a temperate montane ecosystem*. Fort Lauderdale. August 2016.

American Geophysical Union Annual Meeting. *Controls on soil and stream nitrogen cycling in a mountain to urban watershed*. San Francisco. December 2015.

Salt Lake County Watershed Symposium. *Water and nutrients in the urban center and surrounding wildlands*. Salt Lake City. November 2015.

American Geophysical Union Annual Meeting. *Climatic controls on the isotopic composition and availability of soil nitrogen in montane tropical forests.* San Francisco. December 2014.

American Geophysical Union Annual Meeting. *Erosional nitrogen losses from a geomorphologically dynamic wet tropical watershed*. San Francisco. December 2013.

Ecological Society of America 98th Annual Meeting. *Multiple indices of nutrient limitation in a wet tropical forest*. Minneapolis. August 2013.

Ecological Society of America 97th Annual Meeting. *Lowland tropical N cycling and soil residence time: is there a link*? Portland. August 2012.

American Geophysical Union Annual Meeting. *Topographic control of nitrogen cycling in tropical forests*. San Francisco. December 2011

Ecological Society of America 95th Annual Meeting. *Extracellular enzyme responses to litter and rainfall manipulations in a lowland tropical forest*. Pittsburgh. August 2010.

Teaching Experience

**Instructor**, *Working with Timeseries Data in R*. Fort Lauderdale FL, August 2016.

* Co-taught a NEON-sponsored workshop for students and professors on how to import, organize, plot, and analyze time series data at the Ecological Society of America 101st Annual Meeting

**Instructor**, *Caribbean Ecosystems*. Ecosystem Field Studies Institute. Boulder CO and Akumal MX, June 2014.

* Co-taught a Caribbean ecosystems field course based in the Yucatan of Mexico
* Mentored students in design and execution of independent research projects focused on ecological pattern and process in coral reefs, tidal pools, mangroves, and coastal forests

**Guest Lecturer**, *Ecosystem Ecology*. University of Colorado. Boulder CO, 2012-2013.

* Delivered lectures on soil organic matter cycling in upper-division undergraduate course

**Teaching Assistant**, *Principles of Ecology*. University of Colorado, Boulder CO, 2010-2011

* Directed multiple laboratory sections for a field-based ecology course, including basics of experimental design, data collection, and statistical data analysis in R

**Teaching Assistant**, *General Biology*. University of Colorado, Boulder CO 2009

* Directed multiple laboratory sections for an introductory biology course focused on training students in the scientific method

Outreach and Service

**Participant***,* American Institute for Biological Sciences Annual Biological Sciences Congressional District Visit, Salt Lake City UT, September 2015

* Met with a Utah State Representative to discuss linkages between biogeochemical research on soils and streams with public policy relevant to natural resources

**Mentor,** University of Utah, Salt Lake City UT, June 2015-April 2016

* Helped guide two undergraduate students in execution of independent research on riparian nitrogen dynamics along a mountain-to-urban stream corridor

**Mentor**, University of Colorado, Boulder CO, September 2013-May 2014

* Assisted three female undergraduate honors students in development of diverse research projects related to carbon and nitrogen cycling in tropical ecosystems

***Session Convener,*** American Geophysical Union Annual Meeting, San Francisco CA, December 2013

* Organized oral plus poster session on the topic of *Linking geomorphology to biogeochemistry and nutrient cycles*
* Brought together hydrologists, geologists and ecosystem ecologists to discuss cutting-edge research at the interface of their fields

**Blogger and Scientific Advisor,** Osa Conservation, Boulder CO and Puerto Jimenez Costa Rica, 2011-2013

* Supplied text for an interpretive trail to educate the public about tropical soils
* Delivered lectures for visiting scientists, students, and general public
* Provided advice on soil testing of degraded lands
* Wrote blog posts for a general audience:
* [*http://osaconservation.org/blog/647/a-view-inside-tropical-soils/*](http://osaconservation.org/blog/647/a-view-inside-tropical-soils/)
* [*http://osaconservation.org/blog/2578/these-are-some-steep-hillslopes/*](http://osaconservation.org/blog/2578/these-are-some-steep-hillslopes/)

**Department Eco-leader**, University of Colorado ‘Green Labs Program’

* Helped identify and implement energy and resource conservation strategies in research labs and department buildings

**Peer Reviewer,** 2011 to present

* Conduct reviews for several scientific journals, including *Biogeochemisty, Ecology, Biotropica, Oecologia, Plant Ecology and Diversity, Journal of Visual Experiments*

Professional Skills

* Extensive experience in design and management of ecological research projects, from small watershed studies to regional and continental scale efforts
* Excellent oral and written communication skills for presenting findings through talks and publications
* Proven track record of acquiring grants
* Ability to interpret datasets from a wide array of biogeochemical instrumentation, including gas chromatography, mass spectrometery, continuous-flow autoanalysis, carbon and nitrogen combustion analysis, x-ray diffractometery, spectrophotometery, etc.
* Expertise in analysis, visualization, and modeling of data in R
* Expertise in measurement and modeling of nitrogen stable isotopes and soil enzyme activities
* Proficiency in remote sensing data analysis and visualization in ArcGIS and ENVI
* Proficiency in speaking and reading Spanish and Portuguese

Professional Affiliations

2013-present Earth Science Women’s Network

2011-present American Geophysical Union (Biogeosciences section)

2009-present Ecological Society of America (Biogeosciences section)